Stem Cell Agency backs big ideas on creating a universal blood supply; regenerating injured muscles; and repairing damage caused by Alzheimer's

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May 25, 2017 Oakland, CA Every two seconds someone in the US needs a blood transfusion but sometimes, due to a shortage of donors, there is not enough blood to meet demand and surgeries and other life-saving procedures have to be cancelled. Using human stem cells to create a universal blood supply could help solve that problem. A program that aims to develop such a supply was today approved for funding by the governing Board of the California Institute for Regenerative Medicine (CIRM).

The funding is part of CIRM's Discovery: Inception program, which provides seed funding for great ideas that have the potential to impact human stem cell research, but need some initial support. It's hoped this will enable the researchers to test their ideas, and give them the data they need to compete for more substantial funding

The CIRM Board awarded Tannishtha Reya, Ph.D., of the University of California, San Diego, $232,200 to develop a method of reprogramming human stem cells for blood cell generation.

"Creating a safe, unlimited supply of universal donor blood cells could have a huge impact and save lives, not just in the US but worldwide," says Jonathan Thomas, Ph.D., J.D., Chair of the CIRM Board. "We created the Inception awards to encourage researchers to come up with ideas like this, bold, new approaches to solving problems, and we would help them see if those ideas really work. This is a high risk, high reward program. We feel that a small investment now could produce enormous benefits later."

The Board also approved almost $180,000 to develop a novel, stem cell-based approach to treating Alzheimer's disease. Janet Baulch, Ph.D., of the University of California, Irvine, wants to explore the use of exosomes – tiny vesicles, or sacs, secreted by cells that are believed to play an active role in repairing cellular damage - to slow down the progression of Alzheimer's and reduce symptoms like anxiety, depression, learning and memory.

Altogether six awards, worth almost $1.37 million, were approved for funding by the CIRM Board. Those include:

Application	Title	Institution	CIRM Committed funding
DISC1-10074	Reprogramming human stem cells for blood cell generation	T. Reya – U.C. San Diego	$232,200
DISC1-10036	Prodrug innovation to target muscle stem cells and enhance muscle regeneration	H. Blau – Stanford University	$235,834
DISC1-10079	An exosome-based translational strategy to mitigate Alzheimer's disease neuropathology	J. Baulch – U.C. Irvine	$179,911
DISC1-09912	A novel tissue engineering technique to repair degenerated retina	B. Thomas – University of Southern California	$215,133
DISC1-09999	Generation of expandable, self-renewing muscle stem cells for Duchenne Muscular Dystrophy	A. Sacco – Sanford-Burnham Medical Research Institute	$265,500

DISC1-09984	Hypo-immunogenic cardiac patches for myocardial regeneration	S. Schrepfer – U.C. San Francisco	$238,500

About CIRM

At CIRM, we never forget that we were created by the people of California to accelerate stem cell treatments to patients with unmet medical needs, and act with a sense of urgency to succeed in that mission.

To meet this challenge, our team of highly trained and experienced professionals actively partners with both academia and industry in a hands-on, entrepreneurial environment to fast track the development of today's most promising stem cell technologies.

With $3 billion in funding and approximately 300 active stem cell programs in our portfolio, CIRM is the world's largest institution dedicated to helping people by bringing the future of cellular medicine closer to reality.

For more information, go to www.cirm.ca.gov
